

Solar-B EIS Launch Feb 2004

Report for MSSL Project Review Meeting

27th July 1998

Matthew Whyndham

Issues of Concern

We have identified some areas in which progress can be made prior to the submission of US proposals. We now need to ensure that appropriate effort is devoted to advancing these studies.

Recent Progress

A management plan has been drafted.

The CCD tests at Nagoya were unfortunately cancelled.

A job description (proto-advert) for a CCD specialist has been formed.

Some conceptual design work on the electronics has been commenced.

The optical modelling is progressing well.

A preliminary structural study of the baseline spectrometer and a Cassegrain alternative has been performed.

There was a meeting at ISAS to discuss progress and orientation toward US proposals.

Management

A management and systems engineering plan for the project has now been drafted. Comments are invited on these and the list of Scientific Requirements.

We are now in a position to advertise for a CCD specialist.

Instrumentation

The ISAS meeting threw some light on where some effort needs to go to evaluate the US proposals. Firstly, we need to generate list of components that we expect the US to supply, and the consequences should any be missing from the equivalent lists in the proposals.

Secondly to develop thermal properties of structures etc with reference to the tolerances of the optical components.

Thirdly to generate a preliminary list of moving parts, and their motions.

Electronics: Some conceptual design work has been carried out in this area (MWT, RAG, AJM, RDB). We should now agree with the NAOJ team what routes to explore now - there is the possibility of duplication of effort. We now have architectures in mind which we need to attach quantitative performance estimates to - then determine if the system can carry out the intended observations.

Optical Modelling: (Action 16, MWT, RH). Variable Line Spacing gratings have been successfully modelled (coded in C) within Zemax, and the results now agree with H Hara's (NAOJ) model (in IDL). Additionally, a Zemax model of a proposed Cassegrain system exists.

We can now use Zemax to understand the required mechanical tolerances of the entire optical system.

Structures: A report of the vibration response of two variants of an all-aluminium spectrometer structure has been prepared by BU. This shows that the baseline structure is stiffer than the Cassegrain alternative (although heavier). Some options for foot placement and launch lock have been explored. We (MSSL & BU together) need now to look at ideas for mounting the optical components, and the thermal and vibration response of the resulting structure.

Future Activities

(UK) Science Meeting @ Imperial 28/7/98.

3 Aug. US proposals due. Response (tradeoffs) to these.

D:\Users\mwt\Projects\Solar-B\EIS\Meetings\PRM\report2.doc